
NOTES

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1.0 MEASURING


1. Place the empty provided cup (0.5 litre) on the scale and turn the scale on. It shows 0.0 gram.




2. Fill up the cup with the sample material (+/- 1.0g). The fill quantity is shown on the upper left corner on the display of the FS4.

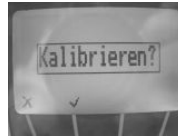



3. Make sure that the measuring chamber is completely empty. It is important that no material is left in the measuring chamber when you turn on the device.



4. Switch on the FS4 by pressing the power button () for 3 sec.



5. As the next step, please do the self calibration. The word "calibrate" will show up on your display. Accept by pressing the  button.



6. In case a menu point is shown, press the left button () until you reach the measuring window.

7. Select the right calibration curve for your material under test using the buttons  or .



8. Fill up the measuring device with the sample material. The filling needs to be done slowly and constantly to ensure reproducible results.



NOTES

8.0 WARRANTY

Electromatic Equipment Co., Inc. (Electromatic) warrants to the original purchaser that this product is of merchantable quality and confirms in kind and quality with the descriptions and specifications thereof. Product failure or malfunction arising out of any defect in workmanship or material in the product existing at the time of delivery thereof which manifests itself within one year from the sale of such product, shall be remedied by repair or replacement of such product, at Electromatic's option, except where unauthorized repair, disassembly, tampering, abuse or misapplication has taken place, as determined by Electromatic. All returns for warranty or non-warranty repairs and/or replacement must be authorized by Electromatic, in advance, with all repacking and shipping expenses to the address below to be borne by the purchaser.

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9. The display shows the measuring result.



10. To save the results in the stor menu press the  ( button). The storage was successful when the number in front of the symbol  increased. To reach the store menu please press () until the  appears.



11. To name the saved results press the  button.



12. Empty the FS4 and ensure that no grain rests are accumulated in the measuring chamber.

2.0 CALIBRATION CURVES

Name of Calibration curve	Material under test	Fill quantity
300g corn stand.	corn standard	300g
300g corn hand	corn hand reaped	300g
300g rye	rye	300g
300g triticale	triticales	300g
300g whea/spe.pe	wheat / spelt peeled	300g
300g barley	barley	300g
190g oats	oats	190g
300g rape	rape	300g
230g pumpkin	pumpkin seed	230g
310g peas	peas	310g
300g soybean	soybean	300g
277g beetle beans	beetle bean	277g
295g horse bean	horse bean	295g
180g sunflower	sunflower seed	180g
300g rice peeled	rice peeled	300g
285g raw.cof.pee	raw coffee peeled	285g
180g raw.cof.unp	raw coffee unpeeled	180g
150g coffee kib.	coffee kibbled	150g
160g coffee roa	coffee roasted	160g
300g poppy	poppy	300g
reference	-----	-----

- Reference: To test the FS4. Do not use for measuring the moisture!
- There are another 10 empty calibration curves stored in the measurement device. These can be used from the customers for special fruits or variety calibration.
- Electromatic can request customized calibration curves of your product.

7.0 TECHNICAL SUPPORT – USER SUPPORT

You will find technical support and comprehensive application support under www.checkline.com

On the website you will also find detailed instructions for all functions. Use the direct chat to ask questions. Our support personal will reply as soon as possible.

Technical data

Resolution of the display	0.1% water content 0.5°C temperature
Measuring range	5 up to 50 % depending on the material
Operation temperature	0°C up to 40°C
Storage temperature	-20°C up to 60°C
Temperature compensation	Automatically
Power supply	4 pcs. 1.5Volt AA Alkaline batteries (1800 measurements)
Auto Switch OFF	After app.6 minutes (adjustable)
Current consumption	55 mA (with light)
Display	128 x 64 matrix display, lighted
Dimensions	260 x 70 x 250 mm
Weight	app. 1.3 kg (with batteries)
Degree of protection	IP 40
Scope of supply	Plastic case Digital scale 1000g Measuring cup 0.5 liter 4 x 1.5Volt AA Alkaline Batteries Software LogMemorizer

6.0 DETERMINATION OF THE MATERIAL MOISTURE

The principle is a comparison measurement with the drying out method according to DIN 10350: 1967 09. Take the measured sample and weigh it. Dry it out in an oven and weigh it again. Following formula can be taken to determine the absolute moisture:

Note! The dried material may not be used any more for measuring purposes!

$$\%F = \frac{Mn - Mt}{Mn} \times 100$$

M_n : Mass with average moisture content

M_t : Mass of the dried sample

$\%F$: Calculated absolute moisture

Exemption from liability












For miss-readings and wrong measurements and of this resulting damage we refuse any liability. This is a device for quick determination of moisture. The moisture depends on multiple conditions and multiple materials. Therefore we recommend a plausibility check of the measuring results. Each device includes a serial number and the guarantee stamp. If those are broken, no claims for guarantee can be made. In case of a faulty device, please contact Electromatic.

3.0 MENU AND KEYPAD

Menu

There are 4 menu levels.









The symbols show the key functions in the different menus.

1. Type Selection :    
2. Store Menu :    
3. Additional level:   
4. Main menu:













Edit Logs
 Manual Logs
 Clear Logs
 Print Logs
 Last Log
 All Logs
 Clear
 Send Logs
 Manual Logs
 Clear Logs
 Options
 Date / Time
 Log Time
 Language
 Unlock
 °C / °F
 Userlevel
 Backlight ON time
 Auto OFF time
 Materialcalib.
 Online Send
 Online Print
 Password
 Reset

Keypad symbols

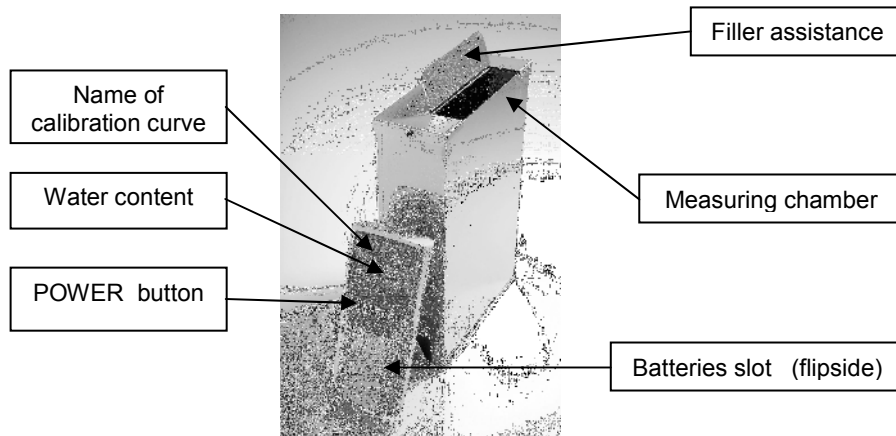
Measuring window:

 : Rolling Menu
 : Power ON / OFF
 : Switch upper
 : Switch lower
 : Save
 : Hold
 : Watch the measuring rows
 : Suppliers data can be added

Menu:

 : Enter
 : Switch upper
 : Switch lower
 : Exit
 : Enter numbers
 : Enter letters
 : Next or right
 : Left
 : Yes
 : No
 : Shift
 : OK

4.0 DESIGN OF THE DEVICE



Most common reasons for miss readings:

- **Product temperature out of application range**

Material **below 0°C** resp. **above 40°C** (32 to 104 °F) may cause faulty measurements. The storage of cold material in a warm storage area usually creates condensed water which may lead to major measuring errors.

- **Not adjusted material**

Let your FS4 adjust to the surrounding temperature of the material for approx. half an hour.

A very high temperature difference has a negative effect on the stability of the measurement result.

- **Wrong calibration curve**

Before you measure your sample, double-check the correct selection of the calibration curve.

- **Wrong fill quantity**

Fill exactly the right weight (± 1.0 g) in the measuring chamber.

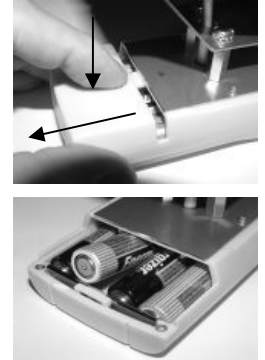
- **Wet or mouldy material**

- **Frozen measuring material.**

5.0 CHANGING BATTERIES

Your new device is provided with batteries. Changing the batteries:

1. Press with your finger onto the arrow of the battery cap and pull it back.
2. Remove the empty batteries.
3. Put four new batteries in the device. Make sure the position of the battery poles is correct.
4. Press down the batteries and close the cap.



FS4

GRAIN & FRUIT MOISTURE METER

